

In the Claims

Amend Claims 1, 16, 27-29, 36 and 40 to read as follows:

1. (Currently Amended) An apparatus for selectively reading data recorded on an information recording medium comprised by laminated recording layers, comprising:
- a light source for injecting a light on an input edge of a multi-layered planar waveguide recording element, assembled into said recording medium containing laminated recording layers, each recording layer having data represented by scattering centers;
 - a converging lens for freely adjustably focusing said light emitted from said light source to generate an input light;
 - B1 an input light directing device for directing said light source and said converging lens as a unit so as to focus said input light to a desired location;
 - an image recording device having an imaging element for recording an informational image generated by diffraction effects of guided waves produced within said multi-layered planar waveguide recording element;
 - an optical power detector for detecting output light emitted from an output edge of a recording layer as well as scattered light generated from layers other than recording layers;
 - and
 - an optical power discrimination circuit, operatively connected to said input light directing device, for determining whether an optical power detector by said optical power detector is associated with said output light or scattered light.
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B2 16. (Currently Amended) An information recording medium structured as a card medium having card framing to contain not less than one longitudinally extending lamination recording section comprised by planar waveguide information recording layers laminated in a thickness direction of said card medium, and a row of head alignment grooves having respective light injection windows separated by a head seek groove extending longitudinally so as to permit an illumination head to freely travel in said head seek groove to couple with a desired light injection window.

B2 27. (Currently Amended) A method for selectively reading data recorded in a lamination recording section comprised by multi-layered planar waveguide recording layers by identifying a target recording layer by moving input light across input edges and detecting optical power of output light emitted from output edges to identify said target recording layer and obtaining an informational image to read target data contained in said target recording layer.

28. (Currently Amended) A method for selectively reading data from a target recording layer included in a lamination recording section having multi-layered planar waveguide recording layers, comprising the steps of:

focusing a light emitted from a light source to form an input light for injecting into an input edge of any of said recording layers including said target recording layer;

focusing light on a front recording layer or a rear recording layer serving as references for determining positions of recording layers;

focusing lights on said target recording layer and detecting an optical power level received on optical power discriminating means;

judging whether said optical power level corresponds to output light emitted from an output edge of any one of recording layer or to scattered light produced from layers other than recording layer while moving said input light across input edges to identify said target recording layers;

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focusing said light on an input edge of said target recording layer in final positioning to generate an informational image; and

recording said an informational image so as to read data contained in said target recording layer.

29. (Currently Amended) A method for selectively reading data from a target recording layer included in a lamination recording section having multi-layered planar waveguide recording layers, comprising the steps of:

focusing a light emitted from a light source to form an input light for injecting into an input edge of any said recording layers including said target recording layer;

judging whether said optical power level corresponds to output light emitted from an output edge of any one of recording layers or to scattered light produced from

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layers other than said recording layers, so that, when output light is detected, recording an informational image produced by that recording layer as positioning references for other recording layers, and, when scattered light is detected, said input light is re-focused to any neighboring recording layer and recording an informational image produced from said neighboring recording layer to obtain data from said neighboring recording layer as positioning reference for recording layers;

identifying position of said target recording layer while moving said input light across input edges and judging optical power levels; and

transferring said input light to an input edge of said target recording layers, and recording an informational image generated to read data contained in said target recording layer.

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36. (Currently Amended) A method for aligning an illumination head for reading information contained in an information recording medium comprised by a data storage disc section having multi-layered planar waveguide recording sections distributed in a ring arrangement, by performing initial alignment based on power levels of reflected return light produced by a portion of input light from a vicinity of input light window of said target recording layer.

40. (Currently Amended) A method for reading data, recorded in laminated information recording medium having multi-layered planar waveguides as information recording layers, comprising the steps of:

providing positioning markers to correspond with positions of light injection windows associated with a front waveguide and a rear waveguide;

detecting light input positions for inputting light into said front waveguide and said rear waveguide with reference to respective markers;

obtaining light input positions to each waveguide in said plurality of waveguides according to detected light input positions of said uppermost most waveguide and said lowermost waveguide; and

focusing light on an input light position determined by a position of a target waveguide so as to read data contained in said target waveguide included in said plurality of waveguides.

REMARKS

The Office Action dated December 24, 2002, has been carefully considered. In response to the Office Action, the Applicant has amended the application. Applicant requests that the Examiner consider the following remarks, and then pass the application to allowance.

Pending Claims

Claims 1-42 remain pending.